

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: GOLD, LARRY
TUERK, CRAIG
- (ii) TITLE OF INVENTION: METHODS OF PRODUCING NUCLEIC ACID LIGANDS
- (iii) NUMBER OF SEQUENCES: 83
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Swanson & Bratschun, L.L.C.
 - (B) STREET: 8400 E. Prentice Avenue, Suite 200
 - (C) CITY: Englewood
 - (D) STATE: Colorado
 - (E) COUNTRY: USA
 - (F) ZIP: 80111
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Diskette, 3 1/5 inch, 1.44 MB
 - (B) COMPUTER: IBM compatible
 - (C) OPERATING SYSTEM: MS-DOS
 - (D) SOFTWARE: WordPerfect 8.0
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: 09/
 - (B) FILING DATE:
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: 08/748,697
 - (B) FILING DATE: 13-NOVEMBER-1996
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: 08/442,062
 - (B) FILING DATE: 16-MAY-1995
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: 07/964,624
 - (B) FILING DATE: 21-OCTOBER-1992
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: 07/714,131
 - (B) FILING DATE: 10-JUNE-1991
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: 07/536,428
 - (B) FILING DATE: 11-JUNE-1990
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Barry J. Swanson
 - (B) REGISTRATION NUMBER: 33,215
 - (C) REFERENCE/DOCKET NUMBER: NEX05/DC-CON
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: (303) 793-3333
 - (B) TELEFAX: (303) 793-3433

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

UCCGNNNNN NNNCGGAAA A

(C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:
 GTTTC AATAG AGATATAAAA TTCTTTCATA G 31

(2) INFORMATION FOR SEQ ID NO:8:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:
 GTTTC AATAG AGATATAAAA TTCTTTCATA GNNNNNNNNNN NNNNNNNNNNN 50
 NNNNNNNNNNN NAGTGCATTT TCCCGTTGCA CTTCCGACC 89

(2) INFORMATION FOR SEQ ID NO:9:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 85 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:
 CCCGGATCCT CTTTACCTCT GTGTGAGATA CAGAGTCCAC AAACGTGTTC 50
 TCAATGCACC CGGTCGGAAG GCCATCAATA GTCCC 85

(2) INFORMATION FOR SEQ ID NO:10:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 49 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:
 CCGAAGCTTA ATACGACTCA CTATAGGGAC TATTGATGGC CTTCCGACC 49

(2) INFORMATION FOR SEQ ID NO:11:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 25 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:
 CCCGGATCCT CTTTACCTCT GTGTG 25

(2) INFORMATION FOR SEQ ID NO:12:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 23 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (ix) FEATURE:

202070-26404001

(D) OTHER INFORMATION: N's at positions 9-11 are base
paired with N's at positions 21-23

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:
UCCSANNNNN NASGGGANAA NNN 23

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 66 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(iii) MOLECULAR TYPE: RNA

(ix) FEATURE:

(D) OTHER INFORMATION: N at position 29-36 can have a
variable length of 6-8 bases

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:
GGUCCGAAGU GCAACGGGGA AAUGCACNN NNNNNNNNNN NNNNNNNNNN 50
NNNNNNNNNN NNNNNN 66

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 88 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:
GGUCCGAAGU GCAACGGGAA AAUGCACUAG CUCGUGAGGC UUUCGUGCUG 50
UCCGAGCUA UGAAAGAAUU UUAUAUCUCU AUUGAAAC 88

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 87 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:
GGUCCGAAGU GCAACGGGAA AAUGCACUGC AUGUGAGGCG GUAACGCUGU 50
UCCGUGCUAU GAAAGAAUUU UUAUAUCUCU UUGAAAC 87

(2) INFORMATION FOR SEQ ID NO:16:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 89 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:
GGUCCGAAGU GCAACGGGAA AAUGCACUGG UGAGUGAGGC CGAUGCUGUU 50
CCUCGCCGCU AUGAAAGAAU UUAUAUCUC UAUUGAAAC 89

(2) INFORMATION FOR SEQ ID NO:17:

(i) SEQUENCE CHARACTERISTICS:

2040497-01002

- (A) LENGTH: 91 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:
 GGUCCGAAGU GCAACGGGAA AAUGCACUGA CGCGCGAGGU CUUGGUACUG 50
 UUCCGUGGCU CUAUGAAAGA AUUUUAUAUC UCUAUUGAAA C 91
- (2) INFORMATION FOR SEQ ID NO:18:
- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:
 GGUCCGAAGU GCAACGGGAA AAUGCACUCU GGGUGAGACU UGAAGUCGUU 50
 CCCCAGGUCU AUGAAAGAAU UUUUAUAUCUC UAUUGAAAC 89
- (2) INFORMATION FOR SEQ ID NO:19:
- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:
 GGUCCGAAGU GCAACGGGAA AAUGCACUCC CGGUGAAGCA UAAUGCUGUU 50
 CCUGGGGUCU AUGAAAGAAU UUUUAUAUCUC UAUUGAAAC 89
- (2) INFORMATION FOR SEQ ID NO:20:
- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:
 GGUCCGAAGU GCAACGGGAA AAUGCACUGG GAGUGAGGUU CCCCUGUCCU 50
 CCCGCACCCU AUGAAAGAAU UUUUAUAUCUC UAUUGAAAC 89
- (2) INFORMATION FOR SEQ ID NO:21:
- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:
 GGUCCGAAGU GCAACGGGAA AAUGCACUAG CGAUGUGAAG UGAUACUGGU 50
 CCAUCGUGCU AUGAAAGAAU UUUUAUAUCUC UAUUGAAAC 89
- (2) INFORMATION FOR SEQ ID NO:22:
- (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs

(B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:
 GGUCCGAAGU GCAACGGGAA AAUGCACUCA CAGUGAGCCU UCUGGUGGUC 50
 CUGUGUGCUA UGAAAGAAU UUAUAUCUCU AUUGAAAC 88

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:
 GGUCCGAAGU GCAACGGGAA AAUGCACUUG UUGUGAGUGG UUGAUUCCAU 50
 GGUCCAACCU AUGAAAGAAU UUAUAUCUCU UAUUGAAAC 89

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:
 GGUCCGAAGU GCAACGGGAA AAUGCACUGC CUGUGAGCUG UUUAGCGGUC 50
 CAGGUCGUCU AUGAAAGAAU UUAUAUCUCU UAUUGAAAC 89

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:
 GGUCCGAAGU GCAACGGGAA AAUGCACUCA AGGCGAAGAC UUAGUCUGCU 50
 CCCUGUGCUA UGAAAGAAU UUAUAUCUCU AUUGAAAC 88

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:
 GGUCCGAAGU GCAACGGGAA AAUGCACUUG CGUCCGAAGUU AAUUCUGGUC 50
 GAUGCCACUA UGAAAGAAU UUAUAUCUCU AUUGAAAC 88

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 90 base pairs
 (B) TYPE: nucleic acid

(C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:
 GGUCCGAAGU GCAACGGGAA AAUGCACUUU CAAUGAGGUA UGUAAUGAUG 50
 GUCGUGCGCC UAUGAAAGAA UUUUAUAUCU CUAUGAAAC 90

(2) INFORMATION FOR SEQ ID NO:28:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:
 GGUCCGAAGU GCAACGGGAA AAUGCACUGC GGGAGAGUCU UUUGACGUUG 50
 CUCCUGCGCU AUGAAAGAAU UUUUAUAUCU UAUUGAAAC 89

(2) INFORMATION FOR SEQ ID NO:29:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:
 GGUCCGAAGU GCAACGGGAA AAUGCACUCA UGGGAGCCCA UCGAUUCUGG 50
 GUGUUGCCUA UGAAAGAAU UUAUAUCUCU AUUGAAAC 88

(2) INFORMATION FOR SEQ ID NO:30:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 88 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:
 GGUCCGAAGU GCAACGGGAA AAUGCACUUG CACAGAGCCA AAUUUGGUGU 50
 UGCUGGCUA UGAAAGAAU UUAUAUCUCU AUUGAAAC 88

(2) INFORMATION FOR SEQ ID NO:31:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:
 GGUCCGAAGU GCAACGGGAA AAUGCACUGG CCAGAGCUUA AAUUCAGUG 50
 UUGCUGGCCU AUGAAAGAAU UUUUAUAUCU UAUUGAAAC 89

(2) INFORMATION FOR SEQ ID NO:32:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 89 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

(2) INFORMATION FOR SEQ ID NO:37:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 89 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULAR TYPE: RNA

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:

GGUCCGAAGU GCAACGGGAA AAUGCACUNN NNNNNNNNNN NNNNNNNNNN 50
NNNNNNNNNCU AUGAAAGAAU UUAUAUCUC UAUUGAAAC 89

(2) INFORMATION FOR SEQ ID NO:38:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 51 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULAR TYPE: RNA

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 29-32 are based
paired with N's at positions 48-51

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 38-39 are based
paired with N's at positions 40-41

(ix) FEATURE:

- (D) OTHER INFORMATION: N at position 44 is either G or U

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:

GGUCCGAAGU GCAACGGGAA AAUGCACUNN NNGUGARNNN NUGNUCCNNN 50
N 51

(2) INFORMATION FOR SEQ ID NO:39:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 54 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULAR TYPE: RNA

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 29-34 are based
paired with N's at positions 48-53

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 37-39 are based
paired with N's at positions 40-42

(ix) FEATURE:

- (D) OTHER INFORMATION: N at position 45 is either G or U

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:

GGUCCGAAGU GCAACGGGAA AAUGCACUNN NNNNAGNNNN NNUGNUGNNN 50
NNNN 54

(2) INFORMATION FOR SEQ ID NO:40:

(i) SEQUENCE CHARACTERISTICS:

204070 26404007 0107002

(A) LENGTH: 37 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:
 GGGUGCAUUG AGAAACACGU UUGUGGACUC UGUAUCU 37

(2) INFORMATION FOR SEQ ID NO:41:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 66 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:
 GGGUGCAUUG AGAAACACGU UUGUGGACUC UGUAUCUAUG AAAGAAUUUU 50
 AUAUCUCUAU UGAAAC 66

(2) INFORMATION FOR SEQ ID NO:42:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 23 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:
 GTTTCATAG AGATATAAAA TTC 23

(2) INFORMATION FOR SEQ ID NO:43:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:
 GGGACUAUUG AUGGCCUCC GACNNNNNNN NNNNNNNNNN NNNNNNNNNN 50
 NNNNNNNNNN NCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:44:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:
 GGGACUAUUG AUGGCCUCC GACCGGGUGC AUUGAGAAAC ACGUUUGUGG 50
 ACUCUGUAUC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:45:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 84 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single

204070-264007

(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:
 GGGACUAUUG AUGGCCUUC GACCUGGUGC GUUGAGAAAC AGGUUUUUGG 50
 ACUCCGUACC ACACAGAGGU AAAGAGGAUC CGGG 84

(2) INFORMATION FOR SEQ ID NO:46:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:
 GGGACUAUUG AUGGCCUUC GACCGUAUGC AUUGAGAGAC ACACUUGUGG 50
 ACUCUGCAUC CCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:47:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:
 GGGACUAUUG AUGGCCUUC GACCAGAUGC AUUGAGAAAC ACUAUUAUGG 50
 ACUCUCCAUC GCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:48:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:
 GGGACUAUUG AUGGCCUUC GACCAGCUUC GUUGAGAUAC ACGUUGAUGG 50
 ACUCCGAAGC ACACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:49:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:
 GGGACUAUUG AUGGCCUUC GACCUCGUAC GUUGAGAAAC AAGUUUAUGG 50
 ACUCCGUACC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:
GGGACUUAUG AUGGCCUUC GACCUCGAUC GUUGAGAUAC ACGCUAGUGG 50
ACUCCGAAAC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:51:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:
GGGACUUAUG AUGGCCUUC GACCUCGUC AUCCGAGAUAC ACGUUUGUGG 50
ACUCUGCACA UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:52:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:
GGGACUUAUG AUGGCCUUC GACCUGAUAC GUUGAGAAAC ACAAUGCUGG 50
ACUCCGCAUC CCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:53:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:
GGGACUUAUG AUGGCCUUC GACCGCCUGC AUUGAGAAAC AGGAUUCUGG 50
ACUCUGCCAC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:54:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:
GGGACUUAUG AUGGCCUUC GACCCGCUAU GUUGAGAAAC ACUUUGCUGG 50
ACUCCGUAGC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:55:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 85 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:

204497-010702

GGGACUAAUG AUGGCCUCC GACCUACUGC AUCGAGAAAC ACGUAAGUGA 50
CUCUGCAUCC CACACAGAGG UAAAGAGGAU CCGGG 85

(2) INFORMATION FOR SEQ ID NO:56:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:
GGGACUAAUG AUGGCCUCC GACCCGUAC GUCCAGAUAC ACGAAGAUGG 50
ACUCCGUAUC GCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:57:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:
GGGACUAAUG AUGGCCUCC GACCAACUCC AUCGAGAAAC ACGAUAGUGG 50
ACUCUGGAGC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:58:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:
GGGACUAAUG AUGGCCUCC GACCGGAGAC GUCCAGAAAC ACGUUUGUGG 50
ACUCCGUCUC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:59:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 86 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:
GGGACUAAUG AUGGCCUCC GACCAGCUAC AUCGAGAAAC AAGAUUUUGG 50
ACUCUGUAGC GCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:60:
(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 83 base pairs
(B) TYPE: nucleic acid
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear
(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:
GGGACUAAUG AUGGCCUCC GACCAAGUGC AUUGAGAUAC AAAUGAUUGG 50

10040497.010702

(2) INFORMATION FOR SEQ ID NO:66:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:
 GGGACUUAUG AUGGCCUUC GACCUCCUGC AUUGAGAAAC AGUGAUCUGG 50
 ACUCUGCAAC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:67:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 85 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:
 GGGACUUAUG AUGGCCUUC GACCUGUGGA UUGAGCAACA CGUGAGUGGA 50
 CUCUCCACAU CACACAGAGG UAAAGAGGAU CCGGG 85

(2) INFORMATION FOR SEQ ID NO:68:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:
 GGGACUUAUG AUGGCCUUC GACCCCGUGC GUUGAGACAC ACACCGAUGG 50
 ACUCCGCAUG UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:69:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:
 GGGACUUAUG AUGGCCUUC GACCAGCUGC AUCGAGAUAC ACGAUUGUGG 50
 ACUCUGCAGC CCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:70:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 87 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear
 (xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:
 GGGACUUAUG AUGGCCUUC GACCAGAUUC GUUGAGAAAC ACAUGGGUGG 50
 ACUCUCCCGC UACACACAGA GGUAAGAGG AUCCGGG 87

(2) INFORMATION FOR SEQ ID NO:71:

2020-06-04

(i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:
 GGGACUAUUG AUGGCCUUC GACCAGAUGG AUUGAGAAAC ACGUUCGUGG 50
 ACUCUCCAAC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:72:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:
 GGGACUAUUG AUGGCCUUC GACCGACUGC AUUGAGAAAC ACUGAUGUGG 50
 CCUCCGCACG GCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:73:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:
 GGGACUAUUG AUGGCCUUC GACCAGCUAC GUUGAGAAAC AGUAUAAUGG 50
 ACUCCGUAGC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:74:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:
 GGGACUAUUG AUGGCCUUC GACCGAGUGC GUUGAGAAAC ACAUUUGUGG 50
 ACUCCGCACA CCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:75:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:
 GGGACUAUUG AUGGCCUUC GACCUCGUAC GUUGAGAAAC ACGCUAGUGG 50
 ACUCCGUAUG UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:76:
 (i) SEQUENCE CHARACTERISTICS:

204070 2540400

(A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:
 GGGACUUAUG AUGGCCUUC GACCAGAUAC GUUGAGAGAC ACGCACGUGG 50
 ACUCCGUAUC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:77:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:
 GGGACUUAUG AUGGCCUUC GACCAGGAUC ACAGAGAAAC ACCGUGGGUG 50
 GCUCCUCUA UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:78:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 87 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:
 GGGACUAUUG AUGGCCUUC GACCGUGCGC AUCGAGAAAC ACGUUGAUGG 50
 ACUCUGCAUG CACACACAGA GGUAAGAGG AUCCGGG 87

(2) INFORMATION FOR SEQ ID NO:79:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:
 GGGACUAUUG AUGGCCUUC GACCGAGAGG AUCGAGAAAC ACGUAUGUGG 50
 ACUCUCCAUC UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:80:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs
 (B) TYPE: nucleic acid
 (C) STRANDEDNESS: single
 (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:
 GGGACUAUUG AUGGCCUUC GACCGGAUGG AUUGAGACAC ACGUAUGUGG 50
 ACUCUCCAUC ACACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:81:
 (i) SEQUENCE CHARACTERISTICS:
 (A) LENGTH: 86 base pairs

- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

GGGACUAUUG AUGGCCUCC GACCUCGGGC AUUGAGAUAC ACGUAGAUGG 50
 ACUCUGUCUC ACACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:82:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 86 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

GGGACUAUUG AUGGCCUCC GACCUGGACC GUAGAGAAAC ACGUUUGAUG 50
 GCUCCUCUG UCACACAGAG GUAAAGAGGA UCCGGG 86

(2) INFORMATION FOR SEQ ID NO:83:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULAR TYPE: RNA

(ix) FEATURE:

- (D) OTHER INFORMATION: N's at positions 1-5 are paired with
 N's at positions 25-29

(ix) FEATURE:

- (D) OTHER INFORMATION: N at position 16 is paired with N at
 position 17

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

NNNNNUGAG AUACANNUGG ACUCNNNNN 29

2020-06-04 09:00